

Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Monday, October 28, 2013 9:03 AM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com;Moisseeva, Tatiana
Subject: MW8-3 update - October 26

MW 8-3 (1211 Edanruth Avenue) Update

Completed Activities:

- Received well permit
- Received LA County Department of Public Works road permit
- Underground Service Alert subsurface utility survey marking
- Geophysical survey for subsurface utilities
- Community involvement flyer distribution by USEPA
- Air knife drilling location
- Depth-discrete groundwater sampling
- Geophysical logging
- Monitoring well installation

Upcoming Activities:

- Well development
- Well sampling
- Well survey
- Drilling waste characterization and removal

Please call if there are any questions.

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Chavira, Raymond
Sent: Monday, October 28, 2013 12:23 PM
To: Bradley.Barquest@utc.com
Cc: Parsons, Scott;Lee, Don;Tom.Perina@CH2M.com
Subject: Request for Update Toe of The Plume Map

Hi Brad,

In anticipation of my meeting with RWQCB on Wednesday, I would like to provide a map to the Water Board showing the well locations including new MW8-3, the proposed reinjection location, etc.

Your produced a plume map with aerial view a few months ago that if updated to include recent data from would be good to show.

Thanks in advance

Ray

Chavira, Raymond

From: Barquest, Bradley A UTCHQ <Bradley.Barquest@utc.com>
Sent: Monday, October 28, 2013 1:40 PM
To: Chavira, Raymond
Cc: Parsons, Scott; Lee, Don; Tom.Perina@CH2M.com
Subject: RE: Request for Update Toe of The Plume Map

Ray, your timing was convenient as I was just preparing the following e-mail:

Ray, during our discussion Friday October 25, 2013, you indicated you have a technical meeting with the LARWQCB to discuss the groundwater analytical data recently collected at and in the vicinity of the 13811 Amar Road, City of La Puente, CA. property, and our intentions to utilize that property for the long-term reinjection of treated extracted PVOU Shallow Zone North groundwater. As this meeting will be a technical in nature I would like to have our consultant, Tetra Tech attend the meeting. Please send both Tetra Tech and me the meeting specifics (time, location, contact, etc).

Based on your e-mail request, I will have Tetra Tech update the figure you referenced and bring it to the meeting (Scott Parsons of Tetra Tech will be attending).

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Chavira, Raymond [<mailto:Chavira.Raymond@epa.gov>]
Sent: Monday, October 28, 2013 2:23 PM
To: Barquest, Bradley A UTCHQ
Cc: Parsons, Scott; Lee, Don; Tom.Perina@CH2M.com
Subject: [External] Request for Update Toe of The Plume Map

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Ray

Chavira, Raymond

From: Chavira, Raymond
Sent: Monday, October 28, 2013 2:28 PM
To: Barquest, Bradley A UTCHQ
Subject: RE: Request for Update Toe of The Plume Map

Brad,

At this initial meeting with the Water Board I would like to have a frank discussion among the agencies, and prefer to wait for after the injection tests for UTC and its consultants to attend.

In addition to the map, please provide a near term schedule planned activities associated with reinjection out to the construction of the Amar/Sunkist treatment facility.

Feel free to call if you have any questions. Thanks.

Ray

From: Barquest, Bradley A UTCHQ [mailto:Bradley.Barquest@utc.com]
Sent: Monday, October 28, 2013 1:40 PM
To: Chavira, Raymond
Cc: Parsons, Scott; Lee, Don; Tom.Perina@CH2M.com
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Based on your e-mail request, I will have Tetra Tech update the figure you referenced and bring it to the meeting (Scott Parsons of Tetra Tech will be attending).

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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Wednesday, October 30, 2013 9:28 AM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com;Moisseeva, Tatiana
Subject: MW8-3 update - October 29

MW 8-3 (1211 Edanruth Avenue) Update

Completed Activities:

- Received well permit
- Received LA County Department of Public Works road permit
- Underground Service Alert subsurface utility survey marking
- Geophysical survey for subsurface utilities
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- Air knife drilling location
- Depth-discrete groundwater sampling
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- Well sampling
- Well survey
- Drilling waste characterization and removal

Please call if there are any questions.

Don

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Chavira, Raymond

From: Tom.Perina@CH2M.com
Sent: Wednesday, October 30, 2013 4:03 PM
To: Bradley.Barquest@utc.com
Cc: Chavira, Raymond; Scott.Parsons@tetrattech.com; Kerang.Sun@CH2M.com
Subject: injection at Amar

Brad,

Our meeting at RWQCB was good and the Board agrees with injection of the treated water at the Amar location on the condition that the injected water will not degrade local groundwater quality as defined by the parameters specified in the Basin Plan (I don't have the list on hand right now, it's inorganics). Please plan on sampling the new wells MW8-1,2,3 for these parameters and prepare a comparison with water quality from S-6. Comparison with water quality from the remaining extraction wells will be needed later. The Board is OK with injection of the treated water from the full SZN system into areas with VOCs over MCL, with the same non-degradation requirement noted above.

Tom

Tom Perina, PhD, PG, CHG
Hydrogeologist/Senior Technologist
CH2M HILL
1770 Iowa Avenue, Suite 200
Riverside, CA 92507
direct: 951-824-8724
951-276-3003 x34024
tperina@ch2m.com

Chavira, Raymond

From: Barquest, Bradley A UTCHQ <Bradley.Barquest@utc.com>
Sent: Thursday, October 31, 2013 5:45 AM
To: <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Chavira, Raymond; Scott.Parsons@tetrattech.com; Lee, Don (Don.Lee@tetrattech.com)
Subject: injection at Amar

Thanks for the update. With respect to future sampling, I will have Tetra Tech include the parameters specified in the Basin Plan to support the long term SZN reinjection at the 13811 Amar Road location.

Call or e-mail with questions

Bradley A Barquest, R.G.
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bradley.barquest@utc.com

From: Tom.Perina@CH2M.com [mailto:Tom.Perina@CH2M.com]
Sent: Wednesday, October 30, 2013 6:03 PM
To: Barquest, Bradley A UTCHQ
Cc: Chavira.Raymond@epa.gov; Scott.Parsons@tetrattech.com; Kerang.Sun@CH2M.com
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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
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To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com;Moisseeva, Tatiana
Subject: MW8-3 update - October 30

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From: Chavira, Raymond
Sent: Thursday, October 31, 2013 12:36 PM
To: Barquest, Bradley A UTCHQ;<Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com; Lee, Don (Don.Lee@tetrattech.com)
Subject: RE: injection at Amar

Brad,

We need baseline sampling as soon as possible on new wells and on other wells in the SZ. These data should be included as part of the Injection Report. Please propose a list of constituents for our review. My understanding is TT conducted baseline sampling for WQO for groundwater a couple years back.

Ray

From: Barquest, Bradley A UTCHQ [mailto:Bradley.Barquest@utc.com]
Sent: Thursday, October 31, 2013 5:45 AM
To: <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Chavira, Raymond; Scott.Parsons@tetrattech.com; Lee, Don (Don.Lee@tetrattech.com)
Subject: injection at Amar

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To: Lee, Don
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com;Moisseeva, Tatiana;Rosa.Esquivel@CH2M.com
Subject: RE: MW8-3 update - October 30

Don,

Thanks for the update. Please let me and Rosa know when you complete equipment removal and site cleanup.

Thanks
Ray

From: Lee, Don [mailto:Don.Lee@tetrattech.com]
Sent: Thursday, October 31, 2013 12:18 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Tom Perina (tom.perina@ch2m.com); Kerang.Sun@CH2M.com; Moisseeva, Tatiana
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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Friday, November 01, 2013 3:42 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com;Moisseeva, Tatiana
Subject: MW8-3 update - November 1

MW 8-3 (1211 Edanruth Avenue) Update

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To: Lee, Don
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com;Moisseeva, Tatiana
Subject: RE: MW8-3 update - November 1

Don, can you start providing similar status updates for the upcoming Injection well drilling, installation, and testing.

Thanks in advance

Ray

From: Lee, Don [mailto:Don.Lee@tetrattech.com]
Sent: Friday, November 01, 2013 3:42 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Tom Perina (tom.perina@ch2m.com); Kerang.Sun@CH2M.com; Moisseeva, Tatiana
Subject: MW8-3 update - November 1

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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Monday, November 04, 2013 9:40 AM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com;Moisseeva, Tatiana
Subject: Reinjection well update - November 4

Reinjection Well (13811 Amar Road) Update

- LACDPH well and SGVWC water use permitting
- Retain drilling subcontractor

Please call if there are any questions.

Thanks
Don

Don Lee, PG, CHG | Senior Hydrogeologist

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From: Chavira, Raymond
Sent: Monday, November 04, 2013 12:17 PM
To: Barquest, Bradley A UTCHQ
Cc: <Tom.Perina@CH2M.com>
(Tom.Perina@CH2M.com); Scott.Parsons@tetrattech.com; Lee, Don
(Don.Lee@tetrattech.com); Kerang.Sun@CH2M.com
Subject: RE: Corrected injection at Amar e-mail

Brad,

We can be available for a call on Wed to clarify EPA's and the Water Board's requirements at this time.

Ray

From: Barquest, Bradley A UTCHQ [mailto:Bradley.Barquest@utc.com]
Sent: Monday, November 04, 2013 10:07 AM
To: Chavira, Raymond
Cc: <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com); Scott.Parsons@tetrattech.com; Lee, Don
(Don.Lee@tetrattech.com)
Subject: Corrected injection at Amar e-mail

Ray, et. al., I am resending this e-mail with a minor correction (typo) at the end of the second paragraph (revised text highlighted in yellow). Please discard the previous e-mail. Sorry for any confusion.

Call or e-mail with questions.

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Barquest, Bradley A UTCHQ
Sent: Monday, November 04, 2013 11:46 AM
To: 'Chavira, Raymond'
Cc: Scott.Parsons@tetrattech.com; Lee, Don (Don.Lee@tetrattech.com); <Tom.Perina@CH2M.com>
(Tom.Perina@CH2M.com)
Subject: RE: injection at Amar

Ray,

Thank you for the update on your meeting with the Los Angeles Regional Water Quality Control Board. It sounds as if the meeting was very productive and that the LARWQCB concurs with the USEPA's decision to provide formal approval for both the short-term (i.e., reinjection pilot study) and long term (i.e., all phases of the PVOU SZ North of Puente Creek interim remedy for the full life of the interim remedy) reinjection of PVOU SZ North of Puente Creek treated groundwater at the Amar Road location. UTC is encouraged that the LARWQCB has not changed its position on this issue as documented in their November 16, 2010 letter (see Attachment A), and UTC appreciates USEPA's efforts in reaffirming this position and communicating with the LARWQCB.

As you know UTC has been preparing for the eventual reinjection of treated PVOU SZ north of Puente Creek groundwater in accordance with the Applicable or Relevant and Appropriate Requirements (ARARs) of LARWQCB Order No. R4-2007-0019 (the General Permit). As part of this preparation, we have been sampling monitoring wells MW6-13,

MW6-14, MW6-15, MW6-17, and MW6-18 with USEPA approval, twice per year since December 2011 for the analytes required by paragraph A.2.b of the General Permit. Monitoring well MW-7 was also sampled once for these analytes at the request of the USEPA (sampled in December 2012). These well locations (see Attachment B) and the associated data (see Attachment C) support the assessment that reinjecting treated PVOU SZ groundwater **will not** significantly change background aquifer conditions at, and/or downgradient, of the reinjection zone at 13811 Amar Road.

While UTC was not allowed to participate in the USEPA/LARWQCB meeting regarding the end use of the PVOU SZ north of Puente Creek interim remedy groundwater, we trust that the water quality data collected from monitoring wells MW-7, MW6-13, MW6-14, MW6-15, MW6-17, and MW6-18 (Attachments B and C) was circulated and discussed at this meeting. If these data were not circulated/discussed at the meeting, we request that EPA circulate and discuss the data with LARWQCB so that both USEPA and LARWQCB can: 1) determine if the existing data is sufficient to support/issue the formal approval of both the short-term and long-term reinjection of PVOU SZ North of Puente Creek treated groundwater (as described above) at the Amar Road location; and 2) determine what additional data is necessary to supplement the existing data so that a formal determination can be made. If the data were discussed at the meeting, we would appreciate an email or letter summarizing what determinations were reached.

It is our conclusion that the data in Attachment B can be used in lieu of the special sampling event requested in your email (i.e., a sample event in addition to the regularly scheduled twice-per-year monitoring program and outside the scope of the USEPA approved well installation work plan). Nevertheless, if it is determined that a special sampling event is necessary, we have prepared the following preliminary schedule/work flow for your review so that you may confirm that we understand your request.

Preliminary Schedule/Work Flow

1. Apply for and obtain LA County DPW Road permits for each onsite (as defined by CERCLA) location in public right of way (approximately 2 -3 weeks)
2. Notification to LA County Sherriff and other stakeholders of intent to conduct work in the public right of way (approximately 2 weeks)
3. Prepare health and safety plan, letter format work plan, and request for analysis (RFA)table for USEPA review and approval (approximately 2 weeks)
4. USEPA review and approve health and safety plan, letter format work plan, and RFA table (4 weeks)
5. Procure approximately 17 dedicated low flow sampling pumps. 4 pumps each at P-1, MW8-1, MW8-2, and MW 8-3 and one pump for PVOU SZ extraction well S05. Approximately 10 gallons of water will be required from each of these 17 pumps to fulfill the sample volume requirements (approximately 6 – 8 weeks)
6. Mobilize for special groundwater sampling event following completion of all of the above (approximately 1 – 2 weeks)
7. Sample the 17 wells for the analytes required by the General Permit as shown in Attachment D (approximately 2 weeks; 4 hours per well).
8. Laboratory analysis (approximately 3 weeks)
9. Prepare summary table following receipt of all analytical data (approximately 1 week).

UTC is committed to working with USEPA to identifying a viable end use for the PVOU SZ north of Puente Creek remedy and collecting data that supports this effort. However, this schedule shows that due to the large suite of analysis and sample volumes, the special sampling event requested by the USEPA is not trivial. Accordingly we are very interested in working with USEPA to streamlining the steps required for collecting the data necessary to satisfy the LARWQCB (assuming such data have not already been collected). Any suggestions you have for eliminating unnecessary tasks from the schedule above to be more time and cost effective would be greatly appreciated.

I would suggest that we have a conference call on either Tuesday November 5 or Wednesday November 6, 2013 to discuss these specifics in further detail. Let me know

Bradley A Barquest, R.G.
United Technologies Corporation

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Subject: [External] RE: injection at Amar

Brad,

We need baseline sampling as soon as possible on new wells and on other wells in the SZ. These data should be included as part of the Injection Report. Please propose a list of constituents for our review. My understanding is TT conducted baseline sampling for WQO for groundwater a couple years back.

Ray

From: Barquest, Bradley A UTCHQ [<mailto:Bradley.Barquest@utc.com>]
Sent: Thursday, October 31, 2013 5:45 AM
To: <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Chavira, Raymond; Scott.Parsons@tetrattech.com; Lee, Don (Don.Lee@tetrattech.com)
Subject: injection at Amar

Thanks for the update. With respect to future sampling, I will have Tetra Tech include the parameters specified in the Basin Plan to support the long term SZN reinjection at the 13811 Amar Road location.

Call or e-mail with questions

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Tom.Perina@CH2M.com [<mailto:Tom.Perina@CH2M.com>]
Sent: Wednesday, October 30, 2013 6:03 PM
To: Barquest, Bradley A UTCHQ
Cc: Chavira.Raymond@epa.gov; Scott.Parsons@tetrattech.com; Kerang.Sun@CH2M.com
Subject: [External] injection at Amar

Brad,

Our meeting at RWQCB was good and the Board agrees with injection of the treated water at the Amar location on the condition that the injected water will not degrade local groundwater quality as defined by the parameters specified in the Basin Plan (I don't have the list on hand right now, it's inorganics). Please plan on sampling the new wells MW8-1,2,3 for these parameters and prepare a comparison with water quality from S-6.

Comparison with water quality from the remaining extraction wells will be needed later. The Board is OK with injection of the treated water from the full SZN system into areas with VOCs over MCL, with the same non-degradation requirement noted above.

Tom

Tom Perina, PhD, PG, CHG
Hydrogeologist/Senior Technologist
CH2M HILL
1770 Iowa Avenue, Suite 200

Riverside, CA 92507
direct: 951-824-8724
951-276-3003 x34024
tperina@ch2m.com

Chavira, Raymond

From: Chavira, Raymond
Sent: Tuesday, November 05, 2013 5:52 PM
To: Parsons, Scott
Cc: Hu, Jeffrey@Waterboards
Subject: RE: Example Work Plan for VI - 1 of 2

Scott,

When can we expect your revised VI Plan for BDP Carrier?

Ray

From: Parsons, Scott [mailto:Scott.Parsons@tetrattech.com]
Sent: Wednesday, September 04, 2013 9:20 AM
To: Chavira, Raymond
Subject: RE: Example Work Plan for VI - 1 of 2

Yes it is. Thank you.

From: Chavira, Raymond [mailto:Chavira.Raymond@epa.gov]
Sent: Tuesday, September 03, 2013 1:53 PM
To: Parsons, Scott
Subject: FW: Example Work Plan for VI - 1 of 2

Is this OK?

From: Hu, Jeffrey@Waterboards [mailto:jeffrey.hu@waterboards.ca.gov]
Sent: Tuesday, September 03, 2013 1:33 PM
To: Chavira, Raymond
Cc: Parsons, Scott
Subject: RE: Example Work Plan for VI - 1 of 2

Hi Ray, Sorry that I missed your call last week. I took Friday off. Anyhow, The template looks fine to me. Thank you for checking in.

Best Regards

Jeffrey

G. Jeffrey Hu, P.E.
Senior Water Resources Control Engineer
Chief, SCP Unit II
California Environmental Protection Agency
California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6803 (Direct)

(213) 576-6717 (fax)
jeffrey.hu@waterboards.ca.gov

From: Chavira, Raymond [<mailto:Chavira.Raymond@epa.gov>]
Sent: Friday, August 30, 2013 9:57 AM
To: Hu, Jeffrey@Waterboards
Cc: Parsons, Scott
Subject: FW: Example Work Plan for VI - 1 of 2

Jeff,

This is the template for the Vapor Intrusion Field Sampling Plan we suggest Carrier's consultant Tetra Tech use. Please reply to all if you concur with this format so that Tetra Tech can proceed with preparing the VI FSP for Carrier BDP. Thanks.

Ray

Raymond Chavira
Environmental Scientist/Remedial Project Manager
EPA Region IX
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105-3901
(415) 947-4218
(415) 947-3528 fax

From: Chavira, Raymond
Sent: Thursday, July 11, 2013 6:02 PM
To: Scott Parsons
Cc: Hu, Jeffrey; Plate, Mathew
Subject: Example Work Plan for VI - 1 of 2

Scott,

Attached is an example work plan addendum for Indoor Air and Sub slab sampling we approved.

Ray

Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Wednesday, November 06, 2013 4:47 AM
To: Chavira, Raymond
Subject: RE: Example Work Plan for VI - 1 of 2

Ray

We should submit it next week

----- Original message -----

From: "Chavira, Raymond" <Chavira.Raymond@epa.gov>
Date: 11/05/2013 6:52 PM (GMT-07:00)
To: "Parsons, Scott" <Scott.Parsons@tetrattech.com>
Cc: "Hu, Jeffrey@Waterboards" <jeffrey.hu@waterboards.ca.gov>
Subject: RE: Example Work Plan for VI - 1 of 2

Scott,

When can we expect your revised VI Plan for BDP Carrier?

Ray

From: Parsons, Scott [mailto:Scott.Parsons@tetrattech.com]
Sent: Wednesday, September 04, 2013 9:20 AM
To: Chavira, Raymond
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Yes it is. Thank you.

From: Chavira, Raymond [mailto:Chavira.Raymond@epa.gov]
Sent: Tuesday, September 03, 2013 1:53 PM
To: Parsons, Scott
Subject: FW: Example Work Plan for VI - 1 of 2

Is this OK?

From: Hu, Jeffrey@Waterboards [mailto:jeffrey.hu@waterboards.ca.gov]
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Cc: Parsons, Scott
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G. Jeffrey Hu, P.E.
Senior Water Resources Control Engineer
Chief, SCP Unit II
California Environmental Protection Agency
California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6803 (Direct)
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Subject: FW: Example Work Plan for VI - 1 of 2

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Raymond Chavira
Environmental Scientist/Remedial Project Manager
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San Francisco, CA 94105-3901
(415) 947-4218
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From: Chavira, Raymond
Sent: Thursday, July 11, 2013 6:02 PM
To: Scott Parsons
Cc: Hu, Jeffrey; Plate, Mathew
Subject: Example Work Plan for VI - 1 of 2

Scott,

Attached is an example work plan addendum for Indoor Air and Sub slab sampling we approved.

Ray

Chavira, Raymond

From: Kerang.Sun@CH2M.com
Sent: Thursday, November 07, 2013 2:46 PM
To: Don.Lee@tetrattech.com;Scott.Parsons@tetrattech.com
Cc: Bradley.Barquest@utc.com;Tom.Perina@CH2M.com;Chavira, Raymond

Good afternoon, Don and Scott,

Can you send me the following data, if available?

- 1) Survey reports for MW8-2 cluster
- 2) Summary table of the final screen intervals for P-1, MW8-1 and MW8-2 cluster
- 3) Final depth discrete data for the MW8-1 and MW8-2 well clusters
- 4) Final well screen sample data for MW8-1A, MW8-1B, MW8-1C, MW8-1D, and all wells at the MW8-2 cluster
- 5) Water level measurements for all wells at the P-1, MW8-1, and MW8-2 clusters, if available.

Thank you,

Kerang

Kerang Sun, Ph. D., P. G.
Project Consultant
Environmental Services
CH2M HILL
6 Hutton Centre Drive, Suite 700
Santa Ana, CA 92707
Direct 714.435.6324
Fax 714.424.2238
www.ch2mhill.com

Chavira, Raymond

From: Chavira, Raymond
Sent: Thursday, November 07, 2013 5:08 PM
To: Barquest, Bradley A UTCHQ
Cc: Maldonado, Lewis
Subject: Request for UTC/EPA Meeting before end of calendar year

Brad,

Did you check with your team re: meeting with EPA on November 21? If this date does not work we are requesting a meeting to be held no later than December 15, 2013.

Thank you for your cooperation in this matter.

Ray

Raymond Chavira
Environmental Scientist/Remedial Project Manager
EPA Region IX
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105-3901
(415) 947-4218
(415) 947-3528 fax

Chavira, Raymond

From: Barquest, Bradley A UTCHQ <Bradley.Barquest@utc.com>
Sent: Friday, November 08, 2013 9:14 AM
To: Chavira, Raymond
Cc: Maldonado, Lewis
Subject: RE: Request for UTC/EPA Meeting before end of calendar year

Ray, I will circle back with management to check on availabilities for the proposed time frames. I will let you know as soon as I know. Likely first part of next week.

Call or e-mail with question

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Chavira, Raymond [<mailto:Chavira.Raymond@epa.gov>]
Sent: Thursday, November 07, 2013 7:08 PM
To: Barquest, Bradley A UTCHQ
Cc: Maldonado, Lewis
Subject: [External] Request for UTC/EPA Meeting before end of calendar year

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Raymond Chavira
Environmental Scientist/Remedial Project Manager
EPA Region IX
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105-3901
(415) 947-4218
(415) 947-3528 fax

Chavira, Raymond

From: Tom.Perina@CH2M.com
Sent: Monday, November 11, 2013 10:21 AM
To: Don.Lee@tetrattech.com; Kerang.Sun@CH2M.com
Cc: Bradley.Barquest@utc.com; Chavira, Raymond; Scott.Parsons@tetrattech.com
Subject: RE: PVOU data request

Thanks, Don

From: Lee, Don [mailto:Don.Lee@tetrattech.com]
Sent: Monday, November 11, 2013 10:16 AM
To: Sun, Kerang/SCO
Cc: Bradley.Barquest@utc.com; Perina, Tom/RIV; Chavira.Raymond@epa.gov; Parsons, Scott
Subject: PVOU data request

Kerang,

Please see attached files.

- 1) Survey reports for MW8-2 cluster – MW 8-2 survey reports zip file attached.
- 2) Summary table of the final screen intervals for P-1, MW8-1 and MW8-2 cluster – Summary table P-1, MW8-1, and MW8-2.
- 3) Final depth discrete data for the MW8-1 and MW8-2 well clusters - Depth discrete and Well Screen data MW8-1 & MW8-2 tables.
- 4) Final well screen sample data for MW8-1A, MW8-1B, MW8-1C, MW8-1D, and all wells at the MW8-2 cluster - Depth discrete and Well Screen data MW8-1 & MW8-2 tables.
- 5) Water level measurements for all wells at the P-1, MW8-1, and MW8-2 clusters – Water level measurements table.

Please call if you have any questions.

Don

Don Lee, PG, CHG | Senior Hydrogeologist
Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010
don.lee@tetrattech.com

Tetra Tech
17885 Von Karman Avenue, Suite 500, Irvine, CA 92614-6213 | www.tetrattechgeo.com
Complex World, Clear Solutions™

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From: Kerang.Sun@CH2M.com [<mailto:Kerang.Sun@CH2M.com>]
Sent: Thursday, November 07, 2013 2:46 PM
To: Lee, Don; Parsons, Scott
Cc: Bradley.Barquest@utc.com; Tom.Perina@CH2M.com; Chavira.Raymond@epa.gov
Subject:

Good afternoon, Don and Scott,

Can you send me the following data, if available?

- 1) Survey reports for MW8-2 cluster
- 2) Summary table of the final screen intervals for P-1, MW8-1 and MW8-2 cluster
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- 5) Water level measurements for all wells at the P-1, MW8-1, and MW8-2 clusters, if available.

Thank you,

Kerang

Kerang Sun, Ph. D., P. G.
Project Consultant
Environmental Services
CH2M HILL
6 Hutton Centre Drive, Suite 700
Santa Ana, CA 92707
Direct 714.435.6324
Fax 714.424.2238
www.ch2mhill.com

Chavira, Raymond

From: Barquest, Bradley A UTCHQ <Bradley.Barquest@utc.com>
Sent: Tuesday, November 12, 2013 2:54 PM
To: Chavira, Raymond
Cc: Maldonado, Lewis
Subject: RE: Request for UTC/EPA Meeting before end of calendar year

Ray, I was able to talk with my management today about a meeting. That indicated that they cannot make a meeting date in November, but believe they could work something into Mid-to-Late December 2013. Call when you have a chance and we can discuss the potential dates.

In the interim we would like to receive a detailed meeting agenda from EPA so that we can prepare for the meeting. We will also add our discussion topics to the agenda you provide and will send back. Can you also send a list of EPA participants that will be at the meeting.

As mid-to-late December will soon be upon us, we request that you provide the detailed EPA meeting agenda and EPA participant list by the end of day November 15, 2013.

Again, please call at your convenience so that we can discuss dates, etc.

Thanks

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Barquest, Bradley A UTCHQ
Sent: Friday, November 08, 2013 11:15 AM
To: 'Chavira, Raymond'
Cc: Maldonado, Lewis
Subject: RE: Request for UTC/EPA Meeting before end of calendar year

Ray, I will circle back with management to check on availabilities for the proposed time frames. I will let you know as soon as I know. Likely first part of next week.

Call or e-mail with question

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Chavira, Raymond [<mailto:Chavira.Raymond@epa.gov>]
Sent: Thursday, November 07, 2013 7:08 PM
To: Barquest, Bradley A UTCHQ
Cc: Maldonado, Lewis
Subject: [External] Request for UTC/EPA Meeting before end of calendar year

Brad,

Did you check with your team re: meeting with EPA on November 21? If this date does not work we are requesting a meeting to be held no to later than December 15, 2013.

Thank you for your cooperation in this matter.

Ray

Raymond Chavira
Environmental Scientist/Remedial Project Manager
EPA Region IX
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105-3901
(415) 947-4218
(415) 947-3528 fax

Chavira, Raymond

From: Chavira, Raymond
Sent: Tuesday, November 12, 2013 4:40 PM
To: Barquest, Bradley A UTCHQ
Cc: Maldonado, Lewis
Subject: RE: Request for UTC/EPA Meeting before end of calendar year

I will need to get back to you later next week.

Ray

From: Barquest, Bradley A UTCHQ [mailto:Bradley.Barquest@utc.com]
Sent: Tuesday, November 12, 2013 2:54 PM
To: Chavira, Raymond
Cc: Maldonado, Lewis
Subject: RE: Request for UTC/EPA Meeting before end of calendar year

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Call or e-mail with question

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bradley.barquest@utc.com

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Sent: Thursday, November 07, 2013 7:08 PM
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Cc: Maldonado, Lewis
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Raymond Chavira
Environmental Scientist/Remedial Project Manager
EPA Region IX
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105-3901
(415) 947-4218
(415) 947-3528 fax

Chavira, Raymond

From: Chavira, Raymond
Sent: Tuesday, November 12, 2013 4:59 PM
To: Barquest, Bradley A UTCHQ
Cc: Tom.Perina@CH2M.com;Parsons, Scott
Subject: Meeting on Wed Nov 20 at Tetra Tech Irvine

Brad,

Please submit the baseline sampling plan prior to our meeting next Wednesday. I would like us to among other things work together on a decision matrix at our meeting.

We can meet anytime between 9:30 am and 2 PM. I am in training today and tomorrow but will contact you at lunch hour for a quick call

Thanks

Ray

Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Friday, November 15, 2013 3:26 PM
To: Chavira, Raymond
Subject: indoor air work plan

Ray,

The work plan will not be ready for submittal today. I will finish it up this weekend so we can send out next week.

Scott Parsons | Principal Engineer

Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010

Scott.Parsons@tetrattech.com

Tetra Tech

17885 Von Karmann Avenue | Suite 500 | Irvine, CA 92614-6213

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Chavira, Raymond

From: Chavira, Raymond
Sent: Monday, November 18, 2013 9:20 PM
To: Parsons, Scott
Subject: RE: WP_20131118

Scott,
Can you bring a copy tomorrow's meeting.

Ray

From: Parsons, Scott [mailto:Scott.Parsons@tetrattech.com]
Sent: Monday, November 18, 2013 5:37 PM
To: Chavira, Raymond
Cc: Tom Perina; Bradley A Barquest (bradley.barquest@utc.com); Kerang Sun; Lee, Don
Subject: WP_20131118

Ray,

Please find attached the draft work plan for additional baseline water quality sampling.

Scott Parsons | Principal Engineer
Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010
Scott.Parsons@tetrattech.com

Tetra Tech
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Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Monday, November 18, 2013 10:55 PM
To: Chavira, Raymond
Subject: RE: WP_20131118

Will do

----- Original message -----

From: "Chavira, Raymond" <Chavira.Raymond@epa.gov>
Date: 11/18/2013 9:20 PM (GMT-08:00)
To: "Parsons, Scott" <Scott.Parsons@tetrattech.com>
Subject: RE: WP_20131118

Scott,
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Scott Parsons | Principal Engineer
Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010
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Chavira, Raymond

From: Chavira, Raymond
Sent: Tuesday, November 19, 2013 9:04 PM
To: Parsons, Scott
Subject: RE: WP_20131118

Thanks.

From: Parsons, Scott [mailto:Scott.Parsons@tetrattech.com]
Sent: Monday, November 18, 2013 10:55 PM
To: Chavira, Raymond
Subject: RE: WP_20131118

Will do

----- Original message -----

From: "Chavira, Raymond" <Chavira.Raymond@epa.gov>
Date: 11/18/2013 9:20 PM (GMT-08:00)
To: "Parsons, Scott" <Scott.Parsons@tetrattech.com>
Subject: RE: WP_20131118

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Subject: WP_20131118

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Scott Parsons | Principal Engineer
Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010
Scott.Parsons@tetrattech.com

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Chavira, Raymond

From: Barquest, Bradley A UTCHQ <Bradley.Barquest@utc.com>
Sent: Tuesday, December 03, 2013 5:27 PM
To: Chavira, Raymond;<Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com
Subject: Baseline Water Quality Sampling Update/Follow-up Discussion

Group, as a follow-up to our November 20, 2013 meeting I thought it would be a good idea to have a brief conference call on either December 4 or 5, 2013 (Wednesday or Thursday of this week) to discuss the following so that we can [finalize](#) the Baseline Sampling Work Plan and move toward scheduling/implementing the sampling:

- Composite versus discrete samples for the MW8-1, MW8-2 and MW8-3 wells and PZ-1 (see below references associated with use of composites for data collection and comparability);
- Final list of analytical parameters for the extraction wells based on review of the existing data collected since late 2011 and the LARWQCB's General Permit requirements;
- Coordination with the Community concerning sampling.

As discussed during the November 20, 2013 we have conducted a preliminary search of composite sampling applications and examples at sites. While we have numerous cases for which compositing was performed, a "precedent" type application for a reinjection scenario was not located. That said, the following references are provided for your review and evaluation in considering the approval or denial of composite sampling associated with the MW8-1, MW8-2 and MW8-3 wells and PZ-1 Baseline Sampling activities associated with the PVOU Shallow Zone North reinjection Baseline sampling.

The EPA *Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers* (EPA 542-S-02-001) states "A site characterization objective may be to collect a sample that represents a composite of the entire (or as close as possible) screened interval of the monitoring well"

The EPA *Observational Economy Series Volume 1: Composite Sampling* (EPA 230-R-95-005) states "In order for a data set to properly represent a population, it must cover the ranges of space and time within which the population lies, as well as have sufficient resolution within these ranges....Compositing is common practice for simply increasing the representativeness of a measurement...."

Please provide your availability for either December 4 or 5, 2013 (Wednesday or Thursday of this week) and I will set up a call.

Note: I am unavailable on Thursday until 10:00 am pacific.

Call or e-mail with questions
Thanks

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

Chavira, Raymond

From: Chavira, Raymond
Sent: Tuesday, December 03, 2013 8:43 PM
To: Barquest, Bradley A UTCHQ;<Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com
Subject: RE: Baseline Water Quality Sampling Update/Follow-up Discussion

We will get back to you on times. We have for the most part completed our review of the sampling plan and at this point are leaning to discrete samples and all parameters. We can provide our rationale based on Water Board requirements.

Ray

From: Barquest, Bradley A UTCHQ [mailto:Bradley.Barquest@utc.com]
Sent: Tuesday, December 03, 2013 5:27 PM
To: Chavira, Raymond; <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com
Subject: Baseline Water Quality Sampling Update/Follow-up Discussion

Group, as a follow-up to our November 20, 2013 meeting I thought it would be a good idea to have a brief conference call on either December 4 or 5, 2013 (Wednesday or Thursday of this week) to discuss the following so that we can **finalize** the Baseline Sampling Work Plan and move toward scheduling/implementing the sampling:

- Composite versus discrete samples for the MW8-1, MW8-2 and MW8-3 wells and PZ-1 (see below references associated with use of composites for data collection and comparability);
- Final list of analytical parameters for the extraction wells based on review of the existing data collected since late 2011 and the LARWQCB's General Permit requirements;
- Coordination with the Community concerning sampling.

As discussed during the November 20, 2013 we have conducted a preliminary search of composite sampling applications and examples at sites. While we have numerous cases for which compositing was performed, a "precedent" type application for a reinjection scenario was not located. That said, the following references are provided for your review and evaluation in considering the approval or denial of composite sampling associated with the MW8-1, MW8-2 and MW8-3 wells and PZ-1 Baseline Sampling activities associated with the PVOU Shallow Zone North reinjection Baseline sampling.

The EPA *Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers* (EPA 542-S-02-001) states "A site characterization objective may be to collect a sample that represents a composite of the entire (or as close as possible) screened interval of the monitoring well"

The EPA *Observational Economy Series Volume 1: Composite Sampling* (EPA 230-R-95-005) states "In order for a data set to properly represent a population, it must cover the ranges of space and time within which the population lies, as well as have sufficient resolution within these ranges....Compositing is common practice for simply increasing the representativeness of a measurement...."

Please provide your availability for either December 4 or 5, 2013 (Wednesday or Thursday of this week) and I will set up a call.

Note: I am unavailable on Thursday until 10:00 am pacific.

Call or e-mail with questions

Thanks

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

Chavira, Raymond

From: Barquest, Bradley A UTCHQ <Bradley.Barquest@utc.com>
Sent: Wednesday, December 04, 2013 5:21 AM
To: Chavira, Raymond
Subject: RE: Baseline Water Quality Sampling Update/Follow-up Discussion

Sounds good.

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Chavira, Raymond [<mailto:Chavira.Raymond@epa.gov>]
Sent: Tuesday, December 03, 2013 10:43 PM
To: Barquest, Bradley A UTCHQ; <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com
Subject: [External] RE: Baseline Water Quality Sampling Update/Follow-up Discussion

We will get back to you on times. We have for the most part completed our review of the sampling plan and at this point are leaning to discrete samples and all parameters. We can provide our rationale based on Water Board requirements.

Ray

From: Barquest, Bradley A UTCHQ [<mailto:Bradley.Barquest@utc.com>]
Sent: Tuesday, December 03, 2013 5:27 PM
To: Chavira, Raymond; <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com
Subject: Baseline Water Quality Sampling Update/Follow-up Discussion

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e-fax 860-622-0566
bradley.barquest@utc.com

Chavira, Raymond

From: Tom.Perina@CH2M.com
Sent: Wednesday, December 04, 2013 4:16 PM
To: Scott.Parsons@tetrattech.com
Cc: Chavira, Raymond;bradley.barquest@utc.com;Don.Lee@tetrattech.com
Subject: RE: Updated cross section

Thanks, Scott

We will look at this section and let's discuss later.

Tom

From: Parsons, Scott [mailto:Scott.Parsons@tetrattech.com]
Sent: Wednesday, December 04, 2013 10:43 AM
To: Perina, Tom/RIV
Cc: Chavira.Raymond@epa.gov; Bradley A Barquest (bradley.barquest@utc.com); Lee, Don
Subject: Updated cross section

Tom,

As discussed during our meeting on November 20, 2013, Tetra Tech has updated CH2MHill's draft cross-section B-B' to include groundwater monitoring wells MW8-1 and MW8-2. We did not include MW 8-3 in this cross section because it is too far off the section line (almost a ½ mile). Note that this B-B' cross section now contains subsurface data interpretations from both CH2MHill (on behalf of USEPA, circa 2011) and Tetra Tech (on behalf of UTC/Carrier, circa 2013). Accordingly, we inserted a break in the B-B' cross section between the portion of the cross section that was prepared in 2011 by CH2MHill and the portion that was updated by Tetra Tech based on the MW8-1 and MW8-2 lithology. Please do not hesitate to call if you have any questions.

Scott Parsons | Principal Engineer
Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010
Scott.Parsons@tetrattech.com

Tetra Tech
17885 Von Karmann Avenue | Suite 500 | Irvine, CA 92614-6213

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Chavira, Raymond

From: Tom.Perina@CH2M.com
Sent: Friday, December 06, 2013 3:13 PM
To: Don.Lee@tetrattech.com
Cc: Kerang.Sun@CH2M.com;John.Dolegowski@CH2M.com;Scott.Parsons@tetrattech.com;Chavira, Raymond
Subject: RE: Information needed for groundwater sampling report

Don,

Kerang will send you the missing information we have. I am asking Northrop Grumman for information on their wells. We will send it when available.

In the meantime, please proceed with the groundwater report because the missing information in the well table is not critical, it is mostly borehole diameter and surface elevation. The report may have to include "NA" for some of it. The critical info are x, y, top of casing el., and screen depths, and the table has these for all wells; so the table is OK for the report as is.

Finally, please copy me when e-mailing Kerang.

Thanks,
Tom

Tom Perina, PhD, PG, CHG
Hydrogeologist/Senior Technologist
CH2M HILL
1770 Iowa Avenue, Suite 200
Riverside, CA 92507
direct: 951-824-8724
951-276-3003 x34024
tperina@ch2m.com

From: Lee, Don [<mailto:Don.Lee@tetrattech.com>]
Sent: Tuesday, December 03, 2013 11:02 AM
To: Sun, Kerang/SCO
Cc: Parsons, Scott; Moisseeva, Tatiana
Subject: Information needed for groundwater sampling report
Importance: High

Kerang,

We are preparing PVOU semiannual groundwater sampling report using the template that CH2MHill provided. The template report has table (see attached) that require information that we do not have. The missing info is highlighted on the table. Would you be able to provide the missing information listed below by Thursday this week?

1. Well construction information or well construction log for MW-13, MW-14, MW-16S&D, MW-17S, MW18S&D, MW6-65, MW6-37, MP-20 and the Oakite wells (MW-1,2,4,6). We need well construction information to fill in the table. See attached table.
2. Borehole diameters for MW-01A&B, MW-02, MW-03, MW-05, MW-06, MW-07, MW-08, MW-09, MW-10, MW-11, MW-12, MW-15, MW-17D, MW-19, MW6-71, MW6-61 to 65, MW6-44 & 6-45, MW6-09, MW6-10, MW6-11,

MW6-12, MW6-13, MW6-14, MW6-15, MW6-16, MW6-17, MW 6-18, and MW6-19. Borehole diameters were not shown on the well logs.

3. Ground surface elevations for MW-17S&D, MW-15, MP-20, MW-13, MW-14, MW-16D&S, MW18S7D, MW6-35, MW6-36, MW6-37, and the Oakite wells (MW-1, 2, 4, 6).

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Thursday, December 12, 2013 3:09 PM
To: Enriquez, Raymond; pwinspector@lapuente.org
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Chavira, Raymond; Tom Perina (tom.perina@ch2m.com); Rosa.Esquivel@CH2M.com
Subject: NOTIFICATION - Groundwater sampling from existing wells in La Puente Area , December 16 - 21, 2013 (est.)

Hello Raymond and Kev,

Please be advised that Tetra Tech will be collecting groundwater samples from existing wells located on public roadways approximately from December 16 to 21, 2013.

A brief description of the planned work is as follows:

Work Description: Collect groundwater samples from existing wells.

Where: Mainly residential roads in La Puente (see locations below).

When: Approximately from December 16 to 21, 2013.

Traffic Impact: The sampling is expected to take approximately 2 to 3 hours at each location and will be done one location at a time. Minimal or no traffic impact is expected at most locations. Temporary traffic control signs will be set up at each location to allow two-way traffic flow around the work area. None of the roads will be blocked. Street parking will be temporarily obstructed.

Monitoring Well Locations:

WELL	LOCATION
S-05	Marland St near Orange Ave, La Puente
S-06	Clintwood Ave near Flanner, La Puente
S-07	Giordano St near Evanwood Ave, La Puente
S-09	Foxworth Ave near Sandy Hook Ave, La Puente
S-10	Duff Ave between Temple and Giordano Aves, La Puente
S-11	Beckner St near Duff Ave, La Puente

Please call me if you have any questions.

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Monday, December 16, 2013 8:30 AM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);Kerang.Sun@CH2M.com
Subject: Baseline Water Quality Sampling Update

Ray,

We started at S-06 well location this morning because three cars parked along the curb next S-05. We thought it would be better not to bother people about their vehicles.

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Chavira, Raymond
Sent: Monday, December 16, 2013 1:14 PM
To: Barquest, Bradley A UTCHQ;<Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com;Lee, Don (Don.Lee@tetrattech.com);Kerang Sun (Kerang.Sun@CH2M.com)
Subject: RE: Comments to the Baseline Water Quality Sampling Work Plan, PVOU SZ-North

Brad,

I would be best to revise the Work Plan with a Response to Comments section. This way we can document the sampling for the Regional Water Board.

Ray

From: Barquest, Bradley A UTCHQ [mailto:Bradley.Barquest@utc.com]
Sent: Friday, December 13, 2013 12:55 PM
To: Chavira, Raymond; <Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Cc: Scott.Parsons@tetrattech.com; Lee, Don (Don.Lee@tetrattech.com); Kerang Sun (Kerang.Sun@CH2M.com)
Subject: Comments to the Baseline Water Quality Sampling Work Plan, PVOU SZ-North

Ray and Tom, we have received CH2MHill's comments to the Revised Baseline Sampling Work Plan, Puente Valley Operable Unit, Shallow Zone North of Puente Creek, Interim Remedial Design/Remedial Action, Los Angeles, California, prepared for United Technologies Corporation by Tetra Tech, dated December 11, 2013 (see below). We will initiate the sampling activities on Monday, December 16, 2013 in accordance with the Revised Baseline Sampling Work Plan and associated comments provided today.

Let's discuss Monday December 16, 2013 whether to revise the current Baseline Sampling Work Plan, or provide an addendum to the work plan reflect the comments.

Thanks

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Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

From: Tom.Perina@CH2M.com [mailto:Tom.Perina@CH2M.com]
Sent: Friday, December 13, 2013 1:37 PM
To: Barquest, Bradley A UTCHQ
Cc: Chavira.Raymond@epa.gov; John.Dolegowski@CH2M.com; Kerang.Sun@CH2M.com; Don.Lee@tetrattech.com
Subject: [External] RE: Baseline Water Quality Sampling Work Plan, PVOU SZ-North

Brad,

Below are our comments on the *Revised Baseline Sampling Work Plan, Puente Valley Operable Unit, Shallow Zone North of Puente Creek, Interim Remedial Design/Remedial Action, Los Angeles, California*, prepared for United Technologies Corporation (UTC) by Tetra Tech GEO (TT GEO), dated December 11, 2013. As you and I discussed this morning, UTC will conduct the sampling in accordance with these comments. Per Ray's earlier message today, UTC will proceed with the sampling.

1. **Sampling of SZ-North Extraction Wells.** Use a “splitter” on the discharge line (i.e. a T-fitting attached to the discharge line to which a smaller diameter tube and valve are attached to regulate the flow rate into the bottles during sampling) in order to obtain good quality groundwater samples during well purging and sampling. This will permit the pump to continue pumping at the same rate during purging and sampling (The concern is that with reducing the flow rate by choking down a valve on the discharge line, pump cavitation could compromise the samples of VOCs and dissolved gasses). Based on our discussion today, UTC will use a sampling rig equipped with a 50-gpm pump and “splitter” type sampling port so the sampling procedure will satisfy this comment.
2. **Planning for Collection and Storage of Well Purge Water.** No details have been provided for collection and storage of the purge water; the main concern is about the large quantities of purge water from the extraction wells. Based on our discussion today, UTC will transport all purge water to Baker tank(s) placed at the Amar Street property and no tanks will be stored at the well locations.
3. **Low Flow Sampling.** The low-flow sampling technique should follow the procedures detailed in Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, EPA/540/S-95/504 (April 1996); see attached. Reference this guidance in future documents.
4. **MS/MSD Sample.** A matrix spike/matrix spike duplicate (MS/MSD) has not been included in the list of QA/QC samples for this sampling event. Please add one MS/MSD to the request for analysis table.
5. **Metals Samples.** Field filtration of the metals samples is required by the use of an in-line 0.45-micron sample filter. Perchlorate samples require the use of the sterile field filtration with a 0.2-micron filter. Please add these details to the Request for Analysis Table and verify that the filters (and syringe, if necessary) will be available for the field filtration.

Tom Perina, PhD, PG, CHG
Hydrogeologist/Senior Technologist
CH2M HILL
1770 Iowa Avenue, Suite 200
Riverside, CA 92507
direct: 951-824-8724
951-276-3003 x34024
tperina@ch2m.com

From: Lee, Don [<mailto:Don.Lee@tetrattech.com>]
Sent: Wednesday, December 11, 2013 3:59 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Tom Perina (tom.perina@ch2m.com); Kerang.Sun@CH2M.com
Subject: Baseline Water Quality Sampling Work Plan, PVOU SZ

Ray,

Please find attached a revised Baseline Water Quality Sampling Work Plan associated with the PVOU SZ extraction wells, and the reinjection area monitoring wells and piezometer located at and adjacent to the 13811 Amar Road property. As Brad Barquest (UTC) discussed with Tom Perina (CH2MHill) we have opted to develop and collect discrete samples from each of the extraction wells rather than utilizing the composite approach previously contemplated. We believe this extraction well sampling approach will provide data that is more representative of actual groundwater conditions than the previously contemplated sampling approach. As such all samples collected from the identified extraction wells, monitoring wells and Amar Road piezometer will be discrete samples.

With respect to scheduling, we have made arrangement to begin sampling the extraction wells on Monday, December 16, 2013, pending receipt of EPA's approval of the attached Baseline Water Quality Sampling Work Plan. We will complete the sampling of the extraction wells before moving to the reinjection area wells (i.e., MW8-1, MW8-2 and MW8-3, and piezometer P-1), as we are currently waiting receipt of the MW8-1, MW8-2 and MW8-3 access permits from LA County.

We plan on start sampling extraction wells S-5 and S-6, and proceed upgradient from there. We will provide daily updates with work performed and a schedule of which wells will be sampled the following day. We will also keep you informed as to the status of the LA County access permits for MW8-1, MW8-2 and MW8-3.

Please call if you have any questions.

Regards,
Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetratech.com

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Cc: Scott.Parsons@tetrattech.com; Lee, Don (Don.Lee@tetrattech.com); Kerang Sun (Kerang.Sun@CH2M.com)
Subject: RE: Comments to the Baseline Water Quality Sampling Work Plan, PVOU SZ-North

We will revise the Baseline Sampling Work Plan and resubmit.

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Telephone 763-432-5695
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Tom Perina, PhD, PG, CHG
Hydrogeologist/Senior Technologist
CH2M HILL
1770 Iowa Avenue, Suite 200
Riverside, CA 92507
direct: 951-824-8724
951-276-3003 x34024
tperina@ch2m.com

From: Lee, Don [<mailto:Don.Lee@tetrattech.com>]
Sent: Wednesday, December 11, 2013 3:59 PM
To: Chavira, Raymond

Cc: Bradley.Barquest@utc.com; Parsons, Scott; Tom Perina (tom.perina@ch2m.com); Kerang.Sun@CH2M.com
Subject: Baseline Water Quality Sampling Work Plan, PVOU SZ

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Please call if you have any questions.

Regards,
Don

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Chavira, Raymond

From: Tom.Perina@CH2M.com
Sent: Monday, December 16, 2013 5:44 PM
To: Scott.Parsons@tetrattech.com
Cc: Bradley.Barquest@utc.com;Chavira,
Raymond;John.Dolegowski@CH2M.com;Kerang.Sun@CH2M.com;Don.Lee@tetrattech.c
om
Subject: SZN well sampling

Hi Scott,

What well(s) will your team be sampling this Wednesday? John Dolegowski will make an oversight visit.
Thanks,

Tom

Tom Perina, PhD, PG, CHG
Hydrogeologist/Senior Technologist
CH2M HILL
1770 Iowa Avenue, Suite 200
Riverside, CA 92507
direct: 951-824-8724
951-276-3003 x34024
tperina@ch2m.com

Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Monday, December 16, 2013 5:47 PM
To: Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com;Chavira, Raymond;John.Dolegowski@CH2M.com;Kerang.Sun@CH2M.com;Lee, Don
Subject: RE: SZN well sampling

Tom,

Don will send out a daily update shortly that will summarize what was accomplished today and what is planned for the rest of the week.

Scott Parsons | Principal Engineer
Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010
Scott.Parsons@tetrattech.com

Tetra Tech
17885 Von Karmann Avenue | Suite 500 | Irvine, CA 92614-6213

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From: Tom.Perina@CH2M.com [mailto:Tom.Perina@CH2M.com]
Sent: Monday, December 16, 2013 5:44 PM
To: Parsons, Scott
Cc: Bradley.Barquest@utc.com; Chavira.Raymond@epa.gov; John.Dolegowski@CH2M.com; Kerang.Sun@CH2M.com; Lee, Don
Subject: SZN well sampling

Hi Scott,

What well(s) will your team be sampling this Wednesday? John Dolegowski will make an oversight visit.
Thanks,

Tom

Tom Perina, PhD, PG, CHG
Hydrogeologist/Senior Technologist
CH2M HILL
1770 Iowa Avenue, Suite 200
Riverside, CA 92507
direct: 951-824-8724
951-276-3003 x34024
tperina@ch2m.com

Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Monday, December 16, 2013 6:07 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);John.Dolegowski@CH2M.com
Subject: SZN baseline sampling update - December 16, 2013

Ray,

Completed today

- Collected samples from S-06 and S-07. Cars were parked near or on S-05 all day and could not be accessed today.

Tomorrow

- Sample S-05 and S-08. If S-05 is not accessible, we plan on sampling S-08 and S09, in that order.

Please call if there are any questions.

Thanks
Don

Don Lee, PG, CHG | Senior Hydrogeologist
Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010
don.lee@tetrattech.com

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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Monday, December 16, 2013 6:50 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Tom Perina (tom.perina@ch2m.com); John.Dolegowski@CH2M.com
Subject: RE: SZN baseline sampling update - December 16, 2013 (re-sent)

Ray,

Completed today

- Collected samples from S-06 and S-07. Cars were parked near or on S-05 all day and could not be accessed today.

Tomorrow

- Sample S-05 and S-09. If S-05 is not accessible, we plan on sampling S-09 and S-10, in that order.

Wednesday

- Sample S-10 and S-11

Please call if there are any questions.

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist
Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010
don.lee@tetrattech.com

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From: Lee, Don
Sent: Monday, December 16, 2013 6:06 PM
To: Chavira.Raymond@epa.gov
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Tom Perina (tom.perina@ch2m.com); John.Dolegowski@CH2M.com
Subject: SZN baseline sampling update - December 16, 2013

Ray,

Completed today

- Collected samples from S-06 and S-07. Cars were parked near or on S-05 all day and could not be accessed today.

Tomorrow

- Sample S-05 and S-08. If S-05 is not accessible, we plan on sampling S-08 and S09, in that order.

Please call if there are any questions.

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Chavira, Raymond
Sent: Monday, December 16, 2013 10:12 PM
To: Lee, Don
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);John.Dolegowski@CH2M.com
Subject: RE: SZN baseline sampling update - December 16, 2013 (re-sent)

Don,

I did stop by S7. Erin and Ben were on site.

Ray

From: Lee, Don [mailto:Don.Lee@tetrattech.com]
Sent: Monday, December 16, 2013 6:50 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Tom Perina (tom.perina@ch2m.com); John.Dolegowski@CH2M.com
Subject: RE: SZN baseline sampling update - December 16, 2013 (re-sent)

Ray,

Completed today

- Collected samples from S-06 and S-07. Cars were parked near or on S-05 all day and could not be accessed today.

Tomorrow

- Sample S-05 and S-09. If S-05 is not accessible, we plan on sampling S-09 and S-10, in that order.

Wednesday

- Sample S-10 and S-11

Please call if there are any questions.

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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From: Lee, Don

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To: Chavira.Raymond@epa.gov

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Subject: SZN baseline sampling update - December 16, 2013

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Tomorrow

- Sample S-05 and S-08. If S-05 is not accessible, we plan on sampling S-08 and S09, in that order.

Please call if there are any questions.

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Tuesday, December 17, 2013 5:08 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons, Scott;Tom Perina (tom.perina@ch2m.com);John.Dolegowski@CH2M.com
Subject: SZN baseline sampling update - December 17, 2013

Ray,

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- Collected samples from S-05 and S-09. The project lab indicated that they were not able to analyze Cr+6 for S-06 and S-07 samples due to equipment failure. Due to short Cr+6 sample hold time, alternate lab could not be arranged and Cr+6 was not analyzed for S-06 and S-07 samples. Samples collected today for Cr+6 were submitted to an alternate lab, Weck Labs.

Tomorrow

- Sample S-10 and S-11. We will resampling S-06 and S-07 using a bailer and submit the samples for Cr+6 analysis at the alternate lab.

Please call if there are any questions.

Thanks
Don

Don Lee, PG, CHG | Senior Hydrogeologist
Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010
don.lee@tetrattech.com

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Chavira, Raymond

From: Tom.Perina@CH2M.com
Sent: Tuesday, December 17, 2013 5:37 PM
To: Don.Lee@tetrattech.com;Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Scott.Parsons@tetrattech.com;John.Dolegowski@CH2M.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Don,

Thanks for confirming that you will resample S-6 and S-7.

Tom

From: Lee, Don [mailto:Don.Lee@tetrattech.com]
Sent: Tuesday, December 17, 2013 5:08 PM
To: Chavira.Raymond@epa.gov
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Perina, Tom/RIV; Dolegowski, John/SCO
Subject: SZN baseline sampling update - December 17, 2013

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Please call if there are any questions.

Thanks
Don

Don Lee, PG, CHG | Senior Hydrogeologist
Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010
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Chavira, Raymond

From: John.Dolegowski@CH2M.com
Sent: Tuesday, December 17, 2013 7:08 PM
To: Don.Lee@tetrattech.com;Chavira, Raymond;Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com;Scott.Parsons@tetrattech.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Hi Don,

I see from your email that you recently had problems meeting the 24-hour holding time for hexavalent chromium analysis for the PVOU SZ-North well sampling event. In Nov 2013, CDM Smith proposed (and EPA and CDPH approved) to use EPA 218.7 for the analysis of hexavalent chromium for the future PVOU IZ Remedy groundwater sampling events. The holding time for EPA 218.7 is 14 days, and the reporting limit is 0.02 ug/L (some labs quoting even lower reporting limits). CDPH approved the use of this method for water supply wells. Previously, for years CDM Smith had been using EPA 218.6 with a holding time of 24 hours, and a reporting limit of 0.3 ug/L, as have most environmental projects. However, the reporting limit was not low enough to compare to the California PHG of 0.05 ug/L for hex chrome. This problem (for many projects) lead to the development of EPA 218.7, which some of the local labs now offer and advertise to get new work. EPA 218.7 has a sufficiently low reporting limit (0.02 ug/L) to compare to the hex chrome PHG. I would check with your lab to see what specific reporting limit they can achieve with EPA 218.7. EPA Method 218.7 appears to be preferable than EPA 218.6 based on holding times and reporting limits. From other information I have seen, EPA 218.6 has been incrementally improved over the past few years. TestAmerica was recently advertising a low level hex chrome analysis with EPA 218.6 with a reporting limit of 0.02 ug/L; however, it still has the 24-hour holding time. CDM Smith used Weck Labs for their recent EPA 218.7 analyses. Some more background on this issue is provided in the following links.

<http://www.chromatographyonline.com/lcgc/article/articleDetail.jsp?id=761915>

<http://www.testamericainc.com/news/featured-capabilities/epa-method-2186-low-level-hexavalent-chromium/>

I recommend using EPA 218.7 for the future hex chrome analysis for the SZ-North sampling to avoid the problems associated with the short sample holding times for EPA Method 218.6. You mentioned in your email below that you are using Weck Labs for the hex chrome analysis, so check with them to see if they plan to use EPA Method 218.7 for the analysis of hexavalent chromium.

Regards, John

John Dolegowski
Senior Hydrogeologist/Project Manager
CH2M HILL
jdolegow@ch2m.com
Work Phone: 714/435-6355
Cell Phone: 949/547-6052
Fax: 714/424-2073

From: Lee, Don [mailto:Don.Lee@tetrattech.com]
Sent: Tuesday, December 17, 2013 5:08 PM
To: Chavira.Raymond@epa.gov
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Perina, Tom/RIV; Dolegowski, John/SCO
Subject: SZN baseline sampling update - December 17, 2013

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Tomorrow

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Please call if there are any questions.

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Wednesday, December 18, 2013 9:29 AM
To: John.Dolegowski@CH2M.com; Lee, Don; Chavira, Raymond; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Thanks John. This looks to be a good suggestion. We will send a more detailed response shortly.

From: John.Dolegowski@CH2M.com [mailto:John.Dolegowski@CH2M.com]
Sent: Tuesday, December 17, 2013 7:08 PM
To: Lee, Don; Chavira.Raymond@epa.gov; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com; Parsons, Scott
Subject: RE: SZN baseline sampling update - December 17, 2013

Hi Don,

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<http://www.testamericainc.com/news/featured-capabilities/epa-method-2186-low-level-hexavalent-chromium/>

I recommend using EPA 218.7 for the future hex chrome analysis for the SZ-North sampling to avoid the problems associated with the short sample holding times for EPA Method 218.6. You mentioned in your email below that you are using Weck Labs for the hex chrome analysis, so check with them to see if they plan to use EPA Method 218.7 for the analysis of hexavalent chromium.

Regards, John

John Dolegowski
Senior Hydrogeologist/Project Manager
CH2M HILL
jdolegow@ch2m.com
Work Phone: 714/435-6355
Cell Phone: 949/547-6052
Fax: 714/424-2073

From: Lee, Don [<mailto:Don.Lee@tetrattech.com>]
Sent: Tuesday, December 17, 2013 5:08 PM
To: Chavira.Raymond@epa.gov
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Perina, Tom/RIV; Dolegowski, John/SCO
Subject: SZN baseline sampling update - December 17, 2013

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Tomorrow

- Sample S-10 and S-11. We will resampling S-06 and S-07 using a bailer and submit the samples for Cr+6 analysis at the alternate lab.

Please call if there are any questions.

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Wednesday, December 18, 2013 2:46 PM
To: John.Dolegowski@CH2M.com; Lee, Don; Chavira, Raymond; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com
Subject: RE: SZN baseline sampling update - December 17, 2013

John,

Thank you for the suggestion. Our plan regarding the current baseline sampling for hexavalent chromium at the PVOU SZ extraction wells is as follows:

1. We will resample PVOU SZ extraction wells S06 and S07 by collecting three discrete depth groundwater sample (top, middle, and bottom of the screen interval) from each well with a bailer, and submitting these six samples (three from each extraction well) to a state-certified laboratory for analysis for hexavalent chromium by EPA Method 218.6 with a reporting limit of 0.02 ug/L. The groundwater samples collected from these two wells on Monday, December 16 could not be analyzed for hexavalent chromium due to faulty laboratory equipment.
2. The groundwater samples collected from PVOU SZ extraction wells S05 and S09 on Tuesday, December 17 will be analyzed for hexavalent chromium by EPA Method 218.6. The required buffer solution (ammonium sulfate and ammonium hydroxide) will be added by the laboratory.
3. The groundwater samples that will be collected from PVOU SZ extraction wells S10 and S11 today (December 18) will be analyzed for hexavalent chromium by EPA Method 218.6. The required buffer solution will be added in the field.

Variances from the work plan will be documented in a technical memorandum summarizing the field activities and sampling results.

Call or e-mail with questions

Scott Parsons | Principal Engineer
Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010
Scott.Parsons@tetrattech.com

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From: John.Dolegowski@CH2M.com [mailto:John.Dolegowski@CH2M.com]
Sent: Tuesday, December 17, 2013 7:08 PM
To: Lee, Don; Chavira.Raymond@epa.gov; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com; Parsons, Scott
Subject: RE: SZN baseline sampling update - December 17, 2013

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Regards, John

John Dolegowski
Senior Hydrogeologist/Project Manager
CH2M HILL
jdolegow@ch2m.com
Work Phone: 714/435-6355
Cell Phone: 949/547-6052
Fax: 714/424-2073

From: Lee, Don [<mailto:Don.Lee@tetrattech.com>]
Sent: Tuesday, December 17, 2013 5:08 PM
To: Chavira.Raymond@epa.gov
Cc: Bradley.Barquest@utc.com; Parsons, Scott; Perina, Tom/RIV; Dolegowski, John/SCO
Subject: SZN baseline sampling update - December 17, 2013

Ray,

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Please call if there are any questions.

Thanks

Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Barquest, Bradley A UTCHQ <Bradley.Barquest@utc.com>
Sent: Wednesday, December 18, 2013 2:46 PM
To: Chavira, Raymond
Cc: Scott.Parsons@tetrattech.com;<Tom.Perina@CH2M.com> (Tom.Perina@CH2M.com)
Subject: PVOU Stake Holders Meeting Presentations

Ray have you sent out the presentations associated with the last PVOU Stakeholders Meeting held on November 19, 2013? If not, could you do so at your convenience.

Thanks

Bradley A Barquest, R.G.
United Technologies Corporation
Telephone 763-432-5695
e-fax 860-622-0566
bradley.barquest@utc.com

Chavira, Raymond

From: Tom.Perina@CH2M.com
Sent: Wednesday, December 18, 2013 3:31 PM
To: John.Dolegowski@CH2M.com;Chavira, Raymond
Cc: Kerang.Sun@CH2M.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Checking my mail before the flight...

John and I had a discussion on this yesterday. The stirred water in the well would be aerated and Cr could oxidize into Cr6+, which would result in inflated Cr6+ concentrations from bailer samples. On the other hand, the water in the well could be already replaced by formation water passing through at ~1 ft/d (and probably faster considering vertical flow), in which case it would be OK to sample the three depths with a bailer. The risk for UTC is that if the results are anomalous (much different compared to other extraction well samples), they will have to come back, purge and resample.

Tom

From: Parsons, Scott [mailto:Scott.Parsons@tetrattech.com]
Sent: Wednesday, December 18, 2013 2:46 PM
To: Dolegowski, John/SCO; Lee, Don; Chavira.Raymond@epa.gov; Perina, Tom/RIV
Cc: Bradley.Barquest@utc.com
Subject: RE: SZN baseline sampling update - December 17, 2013

John,

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Variances from the work plan will be documented in a technical memorandum summarizing the field activities and sampling results.

Call or e-mail with questions

Scott Parsons | Principal Engineer
Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010
Scott.Parsons@tetrattech.com

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From: John.Dolegowski@CH2M.com [<mailto:John.Dolegowski@CH2M.com>]
Sent: Tuesday, December 17, 2013 7:08 PM
To: Lee, Don; Chavira.Raymond@epa.gov; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com; Parsons, Scott
Subject: RE: SZN baseline sampling update - December 17, 2013

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Senior Hydrogeologist/Project Manager
CH2M HILL
jdolegow@ch2m.com
Work Phone: 714/435-6355
Cell Phone: 949/547-6052
Fax: 714/424-2073

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Thanks

Don

[Don Lee, PG, CHG](#) | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Wednesday, December 18, 2013 7:56 PM
To: Chavira, Raymond; John.Dolegowski@CH2M.com; Lee, Don; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Will do.

----- Original message -----

From: "Chavira, Raymond" <Chavira.Raymond@epa.gov>
Date: 12/18/2013 6:15 PM (GMT-08:00)
To: "Parsons, Scott" <Scott.Parsons@tetrattech.com>, John.Dolegowski@CH2M.com, "Lee, Don" <Don.Lee@tetrattech.com>, Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com
Subject: RE: SZN baseline sampling update - December 17, 2013

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To: John.Dolegowski@CH2M.com; Lee, Don; Chavira, Raymond; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com
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Regards, John

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CH2M HILL

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From: Lee, Don [<mailto:Don.Lee@tetrattech.com>]

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Sent: Thursday, December 19, 2013 12:04 AM
To: Scott.Parsons@tetrattech.com; Don.Lee@tetrattech.com
Cc: Chavira, Raymond; Bradley.Barquest@utc.com; Tom.Perina@CH2M.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Scott,

I was in the field today for an oversight visit of the SZ-North sampling at EPA's request. During the afternoon, I became aware of the plan to sample S07 at three depths with a bailer. I agree with the principal of collecting a grab sample from 3 depths within the well screen in place of purging the entire extraction well and collecting one representative groundwater sample. However, in practice the bailers will start filling up with groundwater as soon as they are submerged below the water table. Therefore, the 3 samples would all be collected from the uppermost portion of the well screen regardless of how deep the bailer is lowered into the well prior to removal. I discussed this issue with your senior field staff, Ben Alms, and we agreed that a preferable approach would be to sample the 3 well screen depths with HydraSleeve samplers. As you are probably aware, the HydraSleeve sampler remains collapsed and predominantly empty when it is lowered into the well. When the sampler is pulled up at a rate of approximately 1 foot per second, the upward motion causes the top check valve to open which allows the sampler to fill with groundwater as it is pulled up through the well screen a distance equivalent to 1 to 1.5 times the length of the sampler. Ben discussed this approach with Don Lee by phone and they agreed to deploy the HydraSleeve samplers as soon as they are received. My understanding is that the plan is to deploy the samplers one day, allow the well to equilibrate overnight, and then pull the HydraSleeve samplers the following day. Because the extraction wells will not have been fully purged prior to sampling as was the case for initial sampling earlier this week, the hexavalent chromium samples may not be completely representative of the water quality that would be obtained from a purged well. However, our opinion is that this approach is acceptable to provide the missing hexavalent chromium samples as a result of the laboratory missing the hex chrome sample holding time.

Did you mean to state that EPA 218.7 will be used for the hexavalent chromium analysis for S05, S06, S07 and S09 rather than EPA 218.6 as stated in your email below? Please clarify which samples will be analyzed by EPA 218.6 and which samples by EPA 218.7.

Thanks, John

John Dolegowski
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Cc: Bradley.Barquest@utc.com; Parsons, Scott; Perina, Tom/RIV; Dolegowski, John/SCO
Subject: SZN baseline sampling update - December 17, 2013

Ray,

Completed today

- Collected samples from S-05 and S-09. The project lab indicated that they were not able to analyze Cr+6 for S-06 and S-07 samples due to equipment failure. Due to short Cr+6 sample hold time, alternate lab could not be arranged and Cr+6 was not analyzed for S-06 and S-07 samples. Samples collected today for Cr+6 were submitted to an alternate lab, Weck Labs.

Tomorrow

- Sample S-10 and S-11. We will resampling S-06 and S-07 using a bailer and submit the samples for Cr+6 analysis at the alternate lab.

Please call if there are any questions.

Thanks
Don

Don Lee, PG, CHG | Senior Hydrogeologist

Direct: 949.809.5220 | Main: 949.809.5000 | **NEW** Cell: 949.697.1575 | Fax: 949.809.5010

don.lee@tetrattech.com

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Chavira, Raymond

From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Thursday, December 19, 2013 8:48 AM
To: John.Dolegowski@CH2M.com;Parsons, Scott
Cc: Chavira, Raymond;Bradley.Barquest@utc.com;Tom.Perina@CH2M.com
Subject: RE: SZN baseline sampling update - December 17, 2013

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From: John.Dolegowski@CH2M.com [mailto:John.Dolegowski@CH2M.com]
Sent: Thursday, December 19, 2013 12:04 AM
To: Parsons, Scott; Lee, Don
Cc: Chavira.Raymond@epa.gov; Bradley.Barquest@utc.com; Tom.Perina@CH2M.com
Subject: RE: SZN baseline sampling update - December 17, 2013

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Thanks, John

John Dolegowski
Senior Hydrogeologist/Project Manager
CH2M HILL
jdolegow@ch2m.com
Work Phone: 714/435-6355
Cell Phone: 949/547-6052
Fax: 714/424-2073

From: Chavira, Raymond [<mailto:Chavira.Raymond@epa.gov>]
Sent: Wednesday, December 18, 2013 6:16 PM
To: Parsons, Scott; Dolegowski, John/SCO; Lee, Don; Perina, Tom/RIV
Cc: Bradley.Barquest@utc.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Scott,

Please keep an eye on the data since the sampling protocol compared to other extraction well samples is different.

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To: John.Dolegowski@CH2M.com; Lee, Don; Chavira, Raymond; Tom.Perina@CH2M.com
Cc: Bradley.Barquest@utc.com
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Variances from the work plan will be documented in a technical memorandum summarizing the field activities and sampling results.

Call or e-mail with questions

Scott Parsons | Principal Engineer

Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010

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Sent: Tuesday, December 17, 2013 7:08 PM

To: Lee, Don; Chavira.Raymond@epa.gov; Tom.Perina@CH2M.com

Cc: Bradley.Barquest@utc.com; Parsons, Scott

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<http://www.chromatographyonline.com/lcgc/article/articleDetail.jsp?id=761915>

<http://www.testamericainc.com/news/featured-capabilities/epa-method-2186-low-level-hexavalent-chromium/>

I recommend using EPA 218.7 for the future hex chrome analysis for the SZ-North sampling to avoid the problems associated with the short sample holding times for EPA Method 218.6. You mentioned in your email below that you are using Weck Labs for the hex chrome analysis, so check with them to see if they plan to use EPA Method 218.7 for the analysis of hexavalent chromium.

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Sent: Thursday, December 19, 2013 10:30 AM
To: Don.Lee@tetrattech.com; Scott.Parsons@tetrattech.com
Cc: Chavira, Raymond; Bradley.Barquest@utc.com; Tom.Perina@CH2M.com
Subject: RE: SZN baseline sampling update - December 17, 2013

Both methods are fine. I just wanted to make sure there was no error.

Thanks, John

From: Lee, Don [mailto:Don.Lee@tetrattech.com]
Sent: Thursday, December 19, 2013 8:48 AM
To: Dolegowski, John/SCO; Parsons, Scott
Cc: Chavira.Raymond@epa.gov; Bradley.Barquest@utc.com; Perina, Tom/RIV
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From: Lee, Don <Don.Lee@tetrattech.com>
Sent: Thursday, December 19, 2013 4:21 PM
To: Chavira, Raymond
Cc: Bradley.Barquest@utc.com;Parsons,
Scott;Tom.Perina@CH2M.com;John.Dolegowski@CH2M.com
Subject: SZN baseline sampling update - December 19, 2013

Ray,

Completed yesterday

- Collected samples from S-11 with a submersible pump.

Completed today

- Collected a sample from S-10 with a submersible pump.
- Resampled S-06 and S-07 with Hydrasleeve samplers at three discrete depths in each well and submitted the samples for hexavalent chromium analysis. The project lab was not able to analyze the original samples for hexavalent chromium due to equipment failure.

All six extraction wells have been sampled.

Please call if there are any questions.

Thanks
Don

Don Lee, PG, CHG | Senior Hydrogeologist

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Chavira, Raymond

From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Saturday, December 21, 2013 9:54 AM
To: Chavira, Raymond
Cc: Tom Perina;Bradley A Barquest (bradley.barquest@utc.com)
Subject: MW8-1, MW8-2, and MW8-3 permits

Follow Up Flag: Follow up
Flag Status: Completed

Ray,

Los Angeles County has informed us that due to the holidays and backlog, we are not likely to receive the road permits for MW 8-1, 8-2, and 8-3 until approximately January 20. As we will not be able to complete the baseline reinjection sampling until after these permits are received, we would appreciate it if you would place a call to the County to see if the permitting process can be expedited.

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I will call today. Please provide the contact information and proposed dates for sampling. Also, are the permits for a one time sampling event or multiple events over a year or other period?

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To: Chavira, Raymond
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Subject: RE: MW8-1, MW8-2, and MW8-3 permits

Ray,

Our contact person is Magdy El-Shwahyk (626) 458-3134 Melshwah@dpw.lacounty.gov at County of Los Angeles Department of Public Works, 900 S. Fremont Avenue, Alhambra. We confirmed with Magdy that he received the permit application package on Dec 19.

We would like to begin sampling the week of January 6, 2014.

The permit would be good for one calendar year from the date of issuance, and would allow us to include groundwater monitoring wells MW8-1, MW8-2, and MW8-3 in the 2014 comprehensive PVOU SZ North of Puente Creek groundwater monitoring and sampling events.

Thanks for your support!

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Ray

From: Parsons, Scott [<mailto:Scott.Parsons@tetrattech.com>]
Sent: Saturday, December 21, 2013 9:54 AM
To: Chavira, Raymond
Cc: Tom Perina; Bradley A Barquest (bradley.barquest@utc.com)
Subject: MW8-1, MW8-2, and MW8-3 permits

Ray,

Los Angeles County has informed us that due to the holidays and backlog, we are not likely to receive the road permits for MW 8-1, 8-2, and 8-3 until approximately January 20. As we will not be able to complete the baseline reinjection sampling until after these permits are received, we would appreciate it if you would place a call to the County to see if the permitting process can be expedited.

Scott Parsons | Principal Engineer

Direct: 949.809.5222 | Main: 949.809.5000 | Fax: 949.809.5010

Scott.Parsons@tetrattech.com

Tetra Tech

17885 Von Karmann Avenue | Suite 500 | Irvine, CA 92614-6213

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Chavira, Raymond

From: Chavira, Raymond
Sent: Monday, December 23, 2013 10:07 AM
To: Melshwah@dpw.lacounty.gov
Cc: Parsons, Scott; Lee, Don
Subject: FW: MW8-1, MW8-2, and MW8-3 permits

Dear Mr. El-Shwahyk,

Tetra Tech has submitted road permits to access groundwater monitoring wells to groundwater sampling in the West Puente Valley area of the San Gabriel Valley. This work is part of EPA's groundwater cleanup project and we request expedited review and approval so we may start work on January 6, 2014.

Please call me if you need additional information. Thank you in advance for your assistance in this matter.

Ray

Raymond Chavira
Environmental Scientist/Remedial Project Manager
EPA Region IX
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105-3901
(415) 947-4218
(415) 947-3528 fax

From: Parsons, Scott [mailto:Scott.Parsons@tetrattech.com]
Sent: Monday, December 23, 2013 9:49 AM
To: Chavira, Raymond
Cc: Tom Perina; Bradley A Barquest (bradley.barquest@utc.com); Lee, Don
Subject: RE: MW8-1, MW8-2, and MW8-3 permits

Ray,

Our contact person is Magdy El-Shwahyk (626) 458-3134 Melshwah@dpw.lacounty.gov at County of Los Angeles Department of Public Works, 900 S. Fremont Avenue, Alhambra. We confirmed with Magdy that he received the permit application package on Dec 19.

We would like to begin sampling the week of January 6, 2014.

The permit would be good for one calendar year from the date of issuance, and would allow us to include groundwater monitoring wells MW8-1, MW8-2, and MW8-3 in the 2014 comprehensive PVOU SZ North of Puente Creek groundwater monitoring and sampling events.

Thanks for your support!

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From: Chavira, Raymond [<mailto:Chavira.Raymond@epa.gov>]
Sent: Monday, December 23, 2013 8:12 AM
To: Parsons, Scott
Cc: Tom Perina; Bradley A Barquest (bradley.barquest@utc.com)
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From: Parsons, Scott <Scott.Parsons@tetrattech.com>
Sent: Monday, December 23, 2013 11:14 AM
To: Chavira, Raymond
Cc: Tom Perina; Bradley A Barquest (bradley.barquest@utc.com); Lee, Don
Subject: RE: MW8-1, MW8-2, and MW8-3 permits

Thank you Ray. We will plan on mobilizing on January 6.

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